

Multi-Agent transport simulation

Summer 2023, Second Homework

For this homework, you can pick a topic of your choice. It should cover a good portion of the concepts and methods learned during the lectures and seminar and be conceptually sound.

The final output should be a short paper. Please do not hand in more than 15 pages (excluding images). All programming related content must be made available to us via Github or Gitlab (please state the commit hash/identifier that relates to your write-up). Also, you should include a pointer to your runs on our computing cluster.

The homework is due: **30th of September, 23:55** (by e-mail to laudan@tu-berlin.de)

Task 1 (6 Points)

Identify a problem you would like to address in your study. It can pick up on your topic in homework 1 but does not have to. Methodologically it needs to clearly go beyond homework 1. Write down a one-page description of the topic, briefly state why researching this topic is relevant, and lay out the main work steps and methods. Do not be too short on the latter as a good initial description will help identify solutions to potential later issues early on. Use this task / this one-page description to consult with us and get some feedback. There is no particular due date for this task, but we suggest not to take much more than a week from now to save the rest of the time for the implementation of your study etc. Remember that every good scientific study has a question it tries to answer!

Task 2 (12 Points)

Describe how you've implemented your solution. You may talk about problems you've encountered and how you've come around solving them. This part should include what kind of data you've used and what you've programmed to make your projects work. If you include code examples in the write up, it is suggested to format them like this example:

```
public static void main(String[] args) {  
    System.out.println("this could be your code example");  
}
```

Source Code 1 *This source code example shows some source code*

Task 3 (10 Points)

Depending on the research question you've stated in Task 1, present the results of your project. You should use all available tools, such as Via, programming analyses yourself or simply plotting aggregated results in a spreadsheet.

Task 4 (6 Points)

Include a discussion of your results and a conclusion, which refers to the research question you've created at the beginning of the project.